To complete the example of consisting of a machine which accepts a string of 0s or 1s separated by the symbol 2, with the reverse of the string we will use Turing machine blocks one more time. We modify the tape slightly, identifying the start, middle and end of the patterns with a 2, For example, 2100102010012 is a valid string.

From the start of the string, we need to scan forward to position the tape over the 2.

Use the Turing block tool (the step-like symbol) and select the start block and the move_R_until_2 (the 2 will appear once you tell the block to scan for that symbol) both of these are in the library provided in JFLAP. The following machine is will be positioned over the first 2 on the tape after it is run.
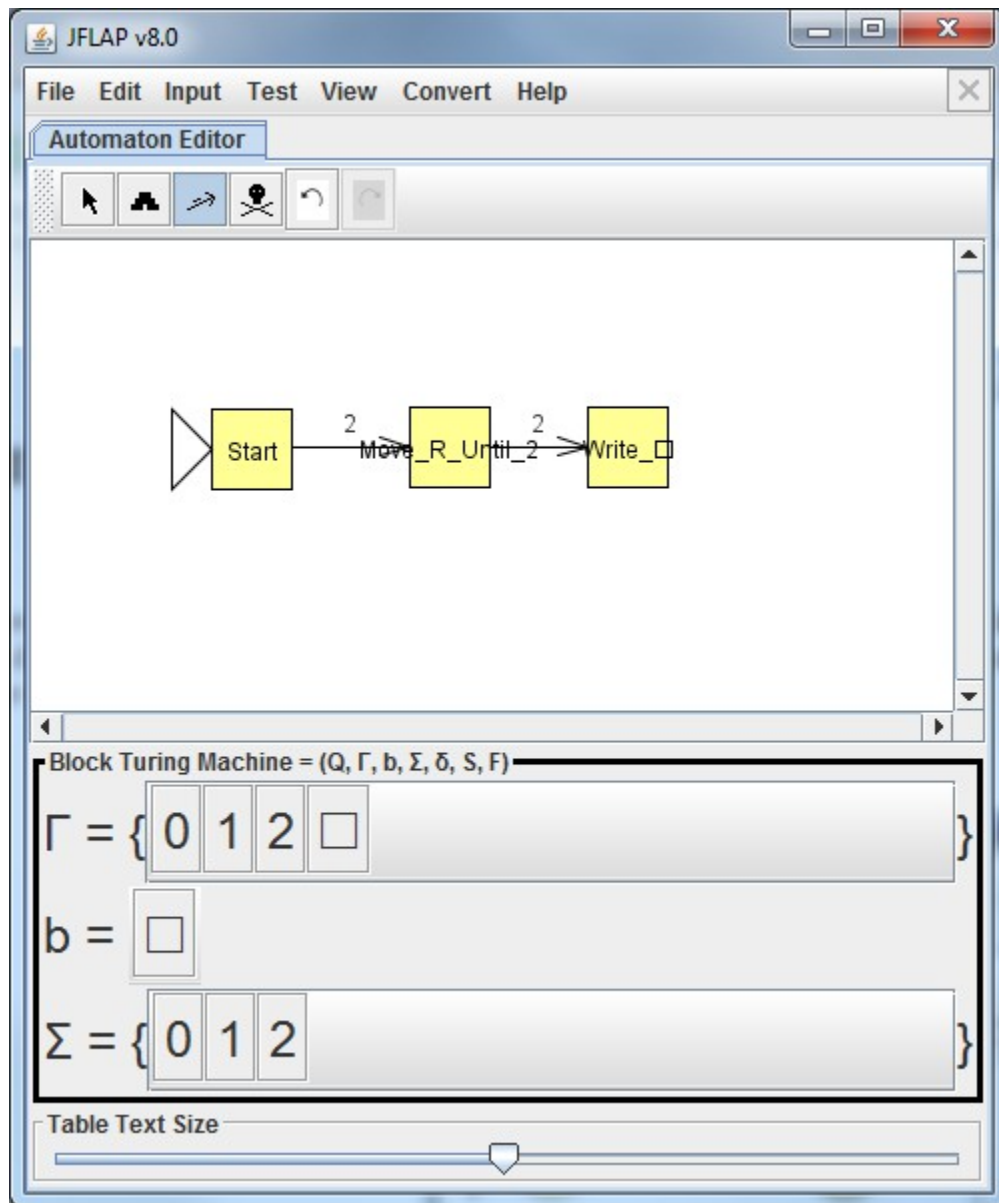
Now, since we have a single tape, we can move to the right one, read the symbole under the head and transition to two states: If we have read a one, we can replace it with a blank we can scan to the left skipping blanks until we find a 1; similarly, if we have read a 0, replace it with a blank and scan to the

left skipping blanks for a matching zero. The process will repeat, terminating and accepting if we find a 2 separated by blanks.

See if you can observe how the two loops function. The final tape is blank after this runs, if the input is accepted.